BATRANIN, Yu. Ye., kand. tekhn. nauk, dotsent

Expansion of characteristics as a method for the analysis of steady-state processes in a nonlinear converter. Izv vys ucheb zav; energ 7 no. 1:27-35 Ja '64. (MIRA 17:5)

1. L'vovskiy politekhnicheskiy institut. Predstavlena kafedroy teoreticheskoy i obshchey elektrotekhniki.

Batranina, G. A.

AUTHORS: Kostylev, Yu.V., Batranina, G.A. 32-1-50/55

TITLE: **Superposition of Fine Grids in the Determination of Linear Tension of Sample Specimens** (O tekhnike naneseniya melkikh setok dlya opredeleniya ploskonapryazhennogo sostoyaniya modeley).

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 1, pp. 114-116 (USSR)

ABSTRACT: In the introduction to this paper the applying of nets to the surfaces subjected to stress is useful. In the chapter: The Application of Refractory Nets to Metal Samples this process is described as follows: The surface of the sample is planed, polished, degreased with a lye solution (10% KOH or NaOH), and covered with a layer of emulsion. The latter is made from the white of the eggs of hens, dichromic acid ammonium and ammonia. In order to attain a uniform application of the emulsion it is recommended to use a centrifuge. Work with this emulsion must be carried out in red light. After the emulsion has dried, the surface is covered with a glass template, upon which the net is applied, after which it is photographically exposed. Moreover, a layer of lithographic paint is applied and rolled out by a rubber roller. The sample is then submerged in a water trough. The water penetrates through the layer

Card 1/2

Superposition of Fine Grids in the Determination of Linear Tension of Sample Specimens

32-1-50/55

of paint until it reaches the emulsion, which is dissolved at the unexposed parts down to the pure metal surface. In this way a negative relief picture of the net is produced. In order to render it resistant against acid it is sprayed with Syrian asphalt powder and blown off with a jet of air. The powder is in this way removed from the polished metal surfaces. The sample is then heated in a thermostat up to a temperature of 200°, at which the powder melts and is transformed into a protective layer; moreover, the rear part and the edge of the sample are coated with a layer of protective varnish, the sample is chromed, and an applied chrome net is formed on it. In the chapter: The Obtaining of Fine Nets on Plates similar procedures for obtaining nets on plates of organic glass or celluloid is described. Instead of galvanization, the paint is merely poured onto the emulsion net picture in this case (as above). After the paint has dried, the emulsion is removed by means of a 10% lye solution and chalk, so that the colored net remains. There are 3 figures and 3 Slavic references.

ASSOCIATION: Central Boiler and Turbine Institute imeni Polzunov (Tsentral'nyy kotloturbinnyy institut im. Polzunova).

AVAILABLE: Library of Congress

Card 2/2 1. Metals-Test methods 2. Emulsions-Applications

BATRAWI, A.

GEOGRAPHY & GEOLOGY

PERIODICAL: CZLOWIEK W CZASIE I PRZESTRZENI. Vol 1, no. 4, 1958

BATRAWI, A. A historical outline of anthroplolgical researches in Egypt. Tr. from the Arabic. p. 180.

Monthly List of East European Accessions (EEAI) LC. Vol 8, no. 4, ~~May~~ April 1959, Unclass.

L 62176-65 EWT(m)/EPF(c)/EPR/EWP(j) Pc-4/Pr-4/Pu-4 WW/JAJ/RM

ACCESSION NR: AP5014682 UR/0191/65/000/006/0041/0044
678.746.22.01:539.219.2

AUTHOR: Smirnov, M.D.; Batrin, L. Ye.

TITLE: Residual stresses and the "silver" phenomenon in polystyrene

SOURCE: Plasticheskiye massy, no. 6, 1965, 41-44

TOPIC TAGS: polystyrene, polymer mechanical property, residual stress, residual deformation, silver phenomenon, polymer annealing

ABSTRACT: The "silver" phenomenon, associated with the formation and growth of visible cracks is mainly observed following mechanical working in the surface layers of polystyrene parts as a result of the presence of large residual stresses. The article reports some results of a study of the development of "silver" cracks following mechanical working of brand "D" block polystyrene, in addition, ways of eliminating them by means of heat treatment are considered. The "silver" cracks appear in polystyrene at stresses considerably below the ultimate strength of the material. Although they do not cause a decrease in strength immediately, they precede a subsequent drop in ultimate strength by determining the stress-rupture strength. The initial block polystyrene has substantial residual strains which cause the appearance of "silver"

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ACCESSION NR: AP5014692 3

cracks and cause changes in its size and shape during annealing of the finished product. The formation of "silver" cracks as a result of mechanical treatment may be prevented by annealing at a minimum temperature of 96C. The annealing should be performed immediately after the mechanical treatment of the part. "Doctor of Technical Sciences A.N. Reznikov was the scientific supervisor. In addition to the authors, A.I. Lipatov and S.N. Malakanov participated in the work." Orig. art. has: 7 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: OC

NO REF SOV: 005 OTHER: 000

Card 2/2

BATRINU, S.

(26)

Bucharest, Viata Medicala, Vol VIII, No 18, 15 Sep 61

1. "Epidemiologic Considerations on the Evolution of Infravirobial Epidemic Hepatitis in Rumania During 1952-1960," Academician St. S. [illegible], Dr [illegible] BIRSAN NURDITANU and Dr S. [illegible]; pp [illegible].

2. "Postviral Chronic Hepatitis and the Conditions for Its Ambulatory Treatment," Dr IOMA [illegible], Candidate in Medical Sciences (Candidat in Stiinte Medicale). Work performed at the Clinic of the "D. Danielopolu" Institute of Normal and Pathological Physiology (Institutul de Fiziologie Normala si Patologica "D. Danielopolu"), Academician Gh. [illegible], Director (director); pp 973-97[illegible].

3. "Contributions to the Study of the Clinical Particularities of Obstructive Jaundice," Dr F. [illegible] and Dr I. [illegible]. Work performed at [illegible] for Contagious Diseases (Clinica de Boli Contagioase [illegible]), Prof [illegible], director (director); English Summary; pp [illegible].

4. "Errors of Diagnosis in the Incipient Phase of Epidemic Hepatitis," Dr V. [illegible], Dr P. [illegible], Dr [illegible] and Dr D. [illegible]. Work performed at the "Prof V. Babes" Hospital for Contagious Diseases (Spitalul de Boli Contagioase "Prof V. Babes", Bucharest), Dr P. [illegible], director (director); pp [illegible].

5. "Anicteric Hepatitis," Dr [illegible], Dr P. SERBAN and Dr C. [illegible]. Work performed at the Clinic I for Contagious Diseases (Clinica [illegible] de Boli Contagioase) and the "Colentina" Hospital ([illegible] "Colentina") (Bucharest); pp [illegible]-1002.

6. "A Case of [illegible] [illegible] [illegible] Hepatica," Dr STELIAN BATRINU. Work performed at the Section for Contagious Diseases (Sectia Boli Contagioase) of the Unified Hospital (Spitalul Unificat) (Tirgoviste); pp 1003-100[illegible].

7. "Recovery Criteria in Epidemic Hepatitis," Dr [illegible] [illegible] and Dr [illegible] [illegible]. Work performed at the Medical Service of State Hospital No 12 (Serviciul Medical al Spitalului de Stat Nr 12, Bucharest),

— 1/2 —

BATRINU, STELIAN

ROMANIA

BATRINU, Stelian, MD.

Section for Infectious Diseases of the Tirgoviste Hospital, Ploiesti Regiune (Spitalul Tirgoviste, Sectia Boli Infectioase).

Bucharest, Viata Medicala, No 3, 1 Feb 63, pp 179-180.

"Multiple Malignant Pustula. Septicemia-Meningitis due to B. Anthracis."

(1)

MATROV, A.

35412. Sovetskie Kitoci. (Antaskt. Kitoboynaya Flotiliya "Siava". Ochesk). Sov. Ukraina, 3, 1949, S. 90-100

SO: Letopis' Zhurnal'nykh Statey Vol. 34, Moskva, 1949

AVGUL', V.T.; BATRUKOV, V.S.; CHMUTOV, D.V. (Moskva)

New model of a chromatographic collector. Zhur. fiz. khim. 34 no.2:460-461 F '60. (MIRA 14:7)
(Chromatographic analysis) (Chemical apparatus)

BATRUKOVA, L.S.

New species of middle Devonian and lower Frasnian lingulids from the Volga-Ural area. Trudy VNIGNI no.16:55-67 '60.
(MIRA 13:6)

(Volga Valley--Brachipoda, Fossil)
(Ural Mountain region--Brachiopoda, Fossil)

BATMUKOVA, L.S.

Some Devonian lingulids in the eastern regions of the Russian Platform. Trudy VNIGNI no.43 58-93 '64 (MIRA 18:2)

SOV/32-24-9-37/53

AUTHORS: Batrukova, M. G., Moskvitin, N. N., Sarakhov, A. I.

TITLE: A Laboratory Thermostat for Temperatures Ranging From +60° to -40° (Laboratornyy termostat dlya temperatur ot +60 do -40°)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 9, pp 1149-1150 (USSR)

ABSTRACT: A number of thermostats are produced for the stabilization of temperature values above the value of tap water, but none are produced for temperatures below this value. In the literature (Ref 1), several cryostats are described, all of which, however, have a small volume. The thermostat described in the present case has a volume of about 1,5 l. The design is based on the thermostat of the type TC-15, combined with the cryostat proposed by G. G. Muttik. A diagram of the thermostat is given. In investigations in the field of temperatures above 0°C, the device works like the thermostat TC-15 with water cooling. In experiments at temperatures below that of cooling water, a freezing mixture, such as acetone-fast carbon dioxide, is used. The temperature could be maintained with an accuracy of ± 0,005° using no freezing mixture, and an accuracy of only ± 0,025-0,035° when freezing mixture was used.

Card 1/2

SOV/32-24-9-37/53

A Laboratory Thermostat for Temperatures Ranging From +60° to -40°

There are 2 figures and 1 reference, which is Soviet.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry of the AS USSR)

Card 2/2

S/080/62/035/002/C20/022
D258/D302

AUTHORS: Kudryavtsev, V. N., Baraboshkina, N. K. and Batrukova, M. G.

TITLE: A photometric method for studying the conditions under which metallic powders are formed

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 2, 1962, 450-452

TEXT: The author developed a method for the accurate determination of the moment, at which a powdery metallic deposit begins to form during electrodeposition. The method consists in continuously measuring the reflective capacity of the cathode as a function of time or of current density. A light beam was concentrated on the cathode surface and reflected on to a photocell; the resulting current was measured and registered on a recorder as a function of time. A typical curve started with a short horizontal section, corresponding to the pre-deposition period; this was followed by a sloping section which indicated the decrease in reflective capacity caused by the onset of powder deposition; the curve was finished by another horizontal section at a lower level. Slope of the middle

section became more steep with rising current density. It was shown in the electrodeposition of Ni that the quality of the deposit underwent a sudden change from lustrous to powdery, within a relatively narrow range of current densities. This could be detected by continuously recording the change in reflective capacity as a function of current density. There are 5 figures and 13 Soviet-bloc references.

SUBMITTED: February 20, 1961

Card 2/2

L 00110-67 EWP(e)/EWT(m)/EWP(v)/EWP(t)/ETI IJP(c) JD/JG/WW/WH

ACC NR: AP6033076 SOURCE CODE: UR/0032/66/032/010/1223/1226

AUTHOR: Vagramyan, A. T.; Baraboshkina, N. K.; Batrukova, M. G.; Titova, V. N. 44 B

ORG: Institute of Physical Chemistry AN SSSR (Institut fizicheskoy khimii AN SSSR)

TITLE: Photometric method for determining the reflectivity and the adhesion of a doposited metal to the backing

SOURCE: Zavodskaya laboratoriya, v. 32, no. 10, 1966, 1223-1226

TOPIC TAGS: electrolytic deposition, light reflection coefficient, adhesive bonding

ABSTRACT: The article describes a method and apparatus for determining the adhesion of an electrolytic coating to the base directly during the electrolysis process, and also for evaluation of the reflectivity of the coating at the time of its deposition. A schematic diagram of the apparatus is shown in Fig. 1. The electrolytic cell consists of a removable cathode 1 and an anode 2, which are fixed to the body of the instrument. The anode is so located with respect to the cathode that uniform distribution of the flow over the whole surface of the electrode is assured. The electrolyte under investigation is placed in a glass vessel 3, which is placed in a thermostatted jacket 4, connected to an ultrathermostat. The photoelectric unit consists of a light source 6, a system of lenses, and the photoelement 7. The reflectivity and the polarization of a nickel deposit were studied in a solution of $NiSO_4 \cdot 7H_2O$—300 grams/liter;

Card 1/3 UDC: 621.357.1:539.61:535.312

L 08110-67
ACC NR: AP6033076

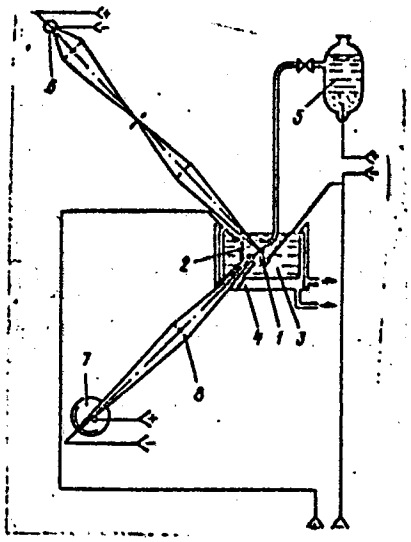

Fig. 1. Schematic diagram of photoelectric instrument

$NiCl_2 \cdot 6H_2O$—60 grams/liter; H_3BO_3—38 grams/liter; pH = 4; D_k = 40 ma/cm^2; t = 25°C. The nickel was deposited on nickel and steel samples with different preliminary treatments of the surface of the metal. The experimental results are shown in graphic

Card 2/3

L 08110-67

ACC NR: AP6033076 O

form. The method is said to be applicable for the determination of adhesion at very high current densities. Orig. art. has: 4 figures.

SUB CODE: 20,07,11/ SUBM DATE: none

Card 3/3 nst

BATRUNOV, A.

Constant concern for the selfare of mill workers. Muk.-elev.prom. 23 no.9:29 S '57. (MIRA 10:11)

1. Molotovskiy mel'nichnyy kombinat.
(Molotov--Flour mills)

FLEROVA, L.N., kand. tekhn. nauk, dotsent; BATRUSHEVICH, V.M., inzh.

Methods for the analysis of the molding properties of knit fabrics. Nauch. trudy MTILP no.28:112-119 '63.
(MIRA 17:11)

1. Kafedra tekhnologii shveynogo proizvodstva Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.

BATSAK, A. I.

USSR/Pharmacology, Toxicology. Various Preparations V-6

Abs Jour : Ref Zhur - Biol., No 5, 1958, No 23387

Author : Aisenberg L.N., Batsak A.I.
Inst : Kishinev Agricultural Institute
Title : Acetyl Derivative of 5-hydroxy-1, 4-naphtoquinone and the Outlook for its Practical Use.

Orig Pub : Tr. Kishinevsk. s.-kh. in-t, 1956, 11, 53-56

Abstract : Ninety five patients with inflammatory erosions of the uterus cervix were treated with juglone (acetylized 5-hydroxy-1, 4-naphtoquinone is found in the green parts of the walnut). A tampon, soaked in an alcoholic solution of juglone in a 1:7000 concentration, was introduced in the vagina once in 5-6 days for 10-15 days. Seventy eight recovered completely, fourteen were considerably better; three patients did not feel better. Relapse was found in six patients.

Card : 1/1

ZAKHAROV, V.I.; KOCHERGINSKIY, A.Z.; SOMONOVA, V.F.; BATSAK, A.I.; AKHMETOVA, S.I.

Biological methods of treating treating trichomonal colpitis. Zdravookhranenie 3 no.1:49-52 Ja-F '60. (MIRA 13:6)

1. Iz kafedr obshchey biologii i parazitologii (zav. - prof. V.I. Zakharov) i akusherstva i ginekologii (zav. - prof. A.Z. Kocherginskiy) Kishinevskogo meditsinskogo instituta.
(TRICHOMONIASIS) (BLOOD AS FOOD OR MEDICINE)

BATSAK, A.I.

Treatment of inflammatory diseases of the internal female sexual organs by presacral novocaine block with antibiotics. Zdravookhranenie 3 no.6:18-22 N-D '60. (MIRA 13:12)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. A.Z. Kochergin-skiy) Kishinevskogo meditsinskogo instituta.
(VAGINA—SURGERY)

BATSAK, A. I., Cand. Medic. Sci. (diss) "Pre-sacral Penicillin-Novocaine Blockage in Complex Treatment of Gynecological Patients, (Clinical-experimental Investigation)," Simferopol', 1961, 16 pp. (Crimean Med. Inst.) 250 copies (KL Supp 12-61, 283).

BATSALOV, I. P. Cand Tech Sci -- (diss) "Study of the biochemical and baking properties of main wheat varieties in People's Republic of Bulgaria." Mos, 1957. 20 pp 20 cm. (Min of Higher Education USSR. Mos Technological Inst of Food Industry), 150 copies (KL, 15-57, 105)

BATSALOV, S.S.; GOROGOTSKAYA, L.I.

Manganese oxides and halosulfides. Zhur.neorg.khim. 4 no.1: 62-70 Ja '59. (MIRA 12:2)
(Manganese compounds)

BATSANADZE, A. L.

"The Action of Electrolytes on Highly Purified Ferrialuminosilica Gels," Dokl. AN SSSR, 21, No.5, 1946

Inst. Chemistry, Geor Acad Sci

Batsanadze A. L.

Exchange aluminum in aluminosilica gels. M. E. Shishniashvili and A. L. Batsanadze. Colloid J. U.S.S.R. 15, 125-33 (1953) (Engl. translation).—See C. A. 47, 7857.

H. L. B.

BATSANADZE, A.L.

B-14

USSR/Chemistry of Colloids - Dispersed Systems.

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18784

Author : I.L. Batsanadze, M.Ye. Shishniashvili, A.L. Batsanadze.
Inst : Institute of Chemistry of Academy of Sciences of Georgia SSR.

Title : Study of Structural-Mechanical and Physical-Chemical Properties of 'skan* Gel Suspensions Treated with High Pressures and High Temperature.

Orig Pub : Tr. In-ta Khimii AN GruzSSR, 1956, 12, 37-48

Abstract : The changes of viscosity (n), water yield, specific electrical conductivity (k) and pH of highly dispersed Askan* gel suspensions (SA) after their preliminary treatment with high pressure (1 to 200 atm) and temperatures t from 20 to 200° were studied. It was shown that the temperature dependence of n has a maximum. SA-s are stable within the temperature interval between 80 and 100°; below this interval, mainly gelatination takes

Card 1/2

SHISHNIASHVILI, M.Ye.; BATSANADZE, A.L.

Decomposition kinetics of aluminum oxychloride [in Georgian with summary in Russian]. Trudy Inst. khim. AN Gruz. SSR 13:61-66 '57.
(Chemical reaction, Rate of) (Aluminum chloride)

PAPUASHVILI, S.N.; BATSANADZE, A.L.; SHISHNIASHVILI, M.Ye.

Effect of organic acids on the adsorption properties of askangels.
Trudy Inst.khim.AN Gruz.SSR 16:117-126 '62. (MIRA 16:4)
(Askangel) (Acids, Organic) (Adsorption)

SHISHNIASHVILI, M.Ye.; BATSANADZE, A.L.; MUMLADZE, A.N.

Highly concentrated colloid solutions. Part 1: Iron hydroxide sols. Trudy Inst.khim.AN Gruz.SSR 16:141-150 '62. (MIRA 16:4)

(Iron hydroxides) (Colloids)

L 18590-65 EWT(m)/EPF(c)/EPA(w)-2/EWP(j)/EWP(b)/T/EWP(t) Pc-4/Pab-10/Pr-4
IJP(c) WH/JD/WW/RM

ACCESSION NR: AP4045406 S/0069/64/026/005/0625/0628

AUTHOR: Shishniashvili, M. Ye.; Batsanadze, A. L.; Odilavadze, L. N. B

TITLE: Highly concentrated colloidal dispersions of polyvalent metal hydroxides

SOURCE: Kolloidny*y zhurnal, v. 26, no. 5, 1964, 625-628 27

TOPIC TAGS: polyvalent metal complex, colloidal dispersion, polyvalent metal colloid, colloid stabilization, colloid stabilizer, sol

ABSTRACT: Conditions for production of highly concentrated and stable colloidal solutions of polyvalent metal hydroxides were studied and a number of their colloid-chemical properties were investigated. Colloids were produced with di- and trivalent iron, manganese, aluminum, chromium, cobalt and copper. Sols were purified by ordinary dialysis in cellophane sacks to pH 7-9 and specific conductance of 10^{-3}-10^{-4} $ohm^{-1} \cdot cm^{-1}$. Only sols of trivalent iron were obtained even in the acid region. Sols were stabilized by the new type of stabilizers made from natural polymeric carbohydrates (wastes from plant materials) by oxidation and

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L 18590-65
ACCESSION NR: AP4045406

2

thermal destruction. These stabilizers are complex mixtures consisting of the type of polyhydroxy carboxylic acids of low molecular weight, capable of producing water soluble and stable in alkaline medium complexes with polyvalent metals. These complexes are similar to metal-EDTA complexes, but are much more stable. These stabilizers enable production of ferric hydroxide colloids up to the concentration of 119 g/l. Further increase of the concentration of sols was done by evaporation at 50-60°C. Without exception all sols of polyvalent metal hydroxides were negatively charged, which is characterized by the nature of the stabilizer. All these sols are polydispersed and consist of spherical particles. Their particle size ranges from 10 to 460 m . Orig. art. has: 2 tables and 2 figures.

ASSOCIATION: Institut khimii AN GSSR im. P G Melikishvili (Chemistry Institute Academy of Sciences GSSR)
SUBMITTED: 12May63 ENCL: 00

SUB CODE: GC NO REF SOV: 002 OTHER: 002

Card 2/2

SHISHNIASHVILI, M.Ye.; BATSANADZE, A.L.; ODILAVADZE, L.N.

Highly concentrated colloidal solutions of polyvalent metal hydroxides. Koll. zhur. 26 no.5:625-628 S-O '64.
(MIRA 17:10)

1. Institut khimii AN GruzSSR imeni P.G. Melikishvili, Tbilisi.

ZYUZIN, Arkadiy Ivanovich; TROKHIMOVSKIY, Gay Vladimirovich; BATSANOV, A.S., kand. sel'khoz. nauk, red.; LEONOVA, T.S., red.; RAKITIN, I.T., tekhn. red.

[Second bread] Vtoroi khleb. Moskva, Izd-vo "Znanie," 1963. 31 p. (Novoe v zhizni, nauke, tekhnike. V Seriia: Sel'skoe khoziaistvo, no.21) (MIRA 17:1)
(Potatoes)

BATSANOV, B.T.[translator]; GERTSOVICH, G.B.[translator]; ROZOVSKIY, L.Ya.[translator]; BRODSKIY, Ye.A., red.; LEBEDINSKAYA, L.N., red.; DZHATIYEVA, F.Kh., tekhn. red.

[National economy of the German Democratic Republic; 15 years of peaceful development] Narodnoe khoziaistvo GDR; 15 let mirnogo razvitiia. Moskva, Izd-vo inostr. lit-ry, 1961. 509 p. Translated from the German. (MIRA 15:3)
(Germany, East--Economic conditions)

BATSANOV, I. N. Cand Agr Sci -- (diss) "Means of improving the quality of the grading of potato tubers." Mos, 1959. 25 pp (Mos Order of Lenin Agr Acad im K. A. Timiryazev), 110 copies (KL, 44-59, 128)

VOLOVCHENKO, I.; METELEV, V.; BANNIKOV, N.; LAPIDUS, M.; MOROZOV, P.; RUBTSOV, M.; BATSANOV, N.; PRYANISHNIKOV, D.N., akademik; TULAYKOV, N.M., akademik; BEREZIN, I.A., red.; AVDEYEVA, V.A., tekhn. red.

[Strong crops] Moguchie kul'tury. Moskva, Sovetskaia Rossiia, 1962. 222 p. (Truzhenikam sela - ob intensivnoi sisteme zemledeliia, no.2) (MIRA 16:9)
(Field crops)

BATSANOV, N. S.

Vozdelyvaniye kartofelya v rayonakh nechernozemnoy polosy (Potato cultivation in regions of the non-chernozem zone) Moskva, "Znaniye," 1953.
31 p. Tables

SO: N/5
725.42
.B3

USSR/Cultivated Plants - Potatoes, Vegetables, Melons. M-5

Abs Jour : Ref Zhur - Biol., No 9, 1958, 39286

Author : Batsanov, N.S.

Inst : Moscow Agricultural Academy imeni K.A. Timiryazev.

Title : Contribution to the Problem of Potato Fertilizing when it is Cultivated for Seed Crop Rotation and for Seedless Cultivation.

Orig Pub : Dokl. Mosk. s.-kh. akad. im. K.A. Timiryazeva, 1956, L, No 26, 173-178.

Abstract : Surveys conducted at the experimental station for field cultivation of the Moscow Agricultural Academy showed that the potato seeds crop (in crop rotation) as well as when it is a permanent crop is possible on turf-podzolic soils of the Moscow oblast when organic fertilizer are applied together with mineral fertilizers. The greatest increase

Card 1/2

- 61 -

USSR/Cultivated Plants - Potatoes, Vegetables Melons. H.

Abs Jour : Ref Zhur - Biol., No 10, 1958, 44097

Author : Peterburgskiy, A.V., Batsanov, N.S.

Inst : Moscow Agricultural Academy imeni K.A. Timiryazev

Title : Experiments with Kalushit ($K_2SO_4 \cdot CaSO_4 \cdot H_2O$) and Ammonium Bicarbonate on Potatoes.

Orig Pub : Dokl. Mosk. s.-kh. akad. im. K.A. Timiryazeva, 1957, vyp. 29, 51-54.

Abstract : On the clay soil of the experimental station of the Moscow Agricultural Academy, potato on kalushit ($K_2SO_4 \cdot CaSO_4 \cdot H_2O$) and on KCl gave equal yields with a lower percentage of starch from KCl. The $(NH_4)_2CO_3$ also tried there increased the potato yield by 20% in comparison with N_{aa}. -- V.V. Prokoshev

Card 1/1

BATSANOV, S. S.

Chemical Abst.
Vol. 48 No. 6
Mar. 25, 1954
Inorganic Chemistry

1/2

New method for the determination of the structure of complex compounds. G. B. Bokii and S. S. Batsanov. *Vestnik Moskov. Univ.* 7, No. 2, *Ser. Fiz.-Mat. i Estestven.* No. 1, 147-53(1952); cf. *ibid.* 1948, No. 11.—A crystal-optic method is given for the distinction of cis and trans configurations in complex salts, e.g. Cleve's and Gerard's salts, and related compds. For $\lambda = N_{a_D}$ and $\lambda = \infty$, the ionic refractions in crystals are computed from the

3

Chair of Crystallography & Crystallochemistry

2/2
G. B
Bokii

Lorentz-Lorenz equation. The ionic refractions in the gaseous state and in crystals show great differences. For a series of crystalline hydrates, the mol. refraction of the water of crystn. could also be computed, namely 3.28 while in liquid state H_2O has for $\lambda = \infty$ the mol. refraction 3.50, and in the vapor state 3.66. In the chemistry of complex Pt compds., the introduction of the refraction value for gaseous H_2O brings about erroneous results, because cryst. hydrates of this group are usually low in H_2O. For the following complex salts of Pt^{IV} the refractive indexes have been detd. for *C*, *D*, and *F* light in the visible range, and with Cauchy's equation extrapolation to $\lambda = \infty$ was carried out to calc. R_∞, and the ionic fractions of the complex anions: $[Pt(NH_3)_4]Cl_4.H_2O$; *trans*-$[Pt(NH_3)_4Cl_2]Cl_2$; *trans*-$[Pt(NH_3)_2Cl_2]Cl.H_2O$; *cis*-$Pt(NH_3)_2Cl_4$; *trans*-$Pt(NH_3)_2Cl_4$; *trans*-$K_2Pt(NO_2)_2Cl_4$; *cis*-$K_2Pt(NO_2)_2Cl_2$; *trans*-$Pt(NO_2)_2(NH_3)_2Cl_2$; $[Pt(NH_3)_3(NO_2)_3Cl_3].H_2O$; $(NH_4)_2PtCl_6$. The calcd. ionic refractions for the complex anions, and $\lambda = \infty$ are: NH_3-Pt^{IV}-NH_3 (12.16); NH_3-Pt^{IV}-Cl (15.56); Cl-Pt^{IV}-Cl (16.98); NO_2-Pt^{IV}-NO_2 (21.85); NO_2-Pt^{IV}-Cl (20.72); NO_2-Pt^{IV}-NH_3 (17.11). The previous calcns. of Yakshin (*C.A.* 44, 10477i) of the same and other complex anion refractions (for $\lambda = Na_D$) are discussed and corrected. Geometrical isomers can be distinguished by the R_D and R_∞ values calcd., e.g., from crystallooptical measurements. For the detns. of the constitution of the complex salts of Pt^{IV} it is only necessary to det. the refractive indexes for *C*, *D*, and *F* light, to extrapolate to $(n_\infty = (a_1n_c - a_2n_D + a_3n_F)/(a_1 - a_2 - a_3))$ and to calc. the mol. refraction. From this value, the Fajans-Joos-Pauling data of cationic refraction are used to det. the *R* values of the complex anion, and the values $s = Rd/M$; $s' = (1 + 2s)/(1 - s)$, and the differences Δs_∞^1 and Δ_∞^1. The latter values show for $\lambda = \infty$ a much better agreement with the exptl. detns. in a special case of isomers, than the same difference detd. for $\lambda =$

W. Ritel

1
(3)

BATSANOV, S. S.

Calculation of the densities of the nitro ammonium compounds of trivalent [illegible]. S. S. Batsanov (Moscow Univ.). Vestnik Moskov. Univ. 8, No. 11, [illegible] Nauk, No. 6, 117-1[illegible] [illegible] have a simple additive [illegible] particular complex [illegible] before the vol [illegible] the vols. of the [illegible] [illegible] transitional series [illegible] which immediately precede and [illegible] mean of $K_3[Co(NH_3)_3(NO_2)_3]$ and $(NH_4)_2[Co(NH_3)_2(NO_2)_4]$ are calcd. On this basis, the ds. of to be 2.30 and 1.00, resp. These compds. have not yet been isolated.

Mary Alexander

BATSANOV, S S

Refraction of the hydrogen bond. G. B. Bokii and S. S. Batsanov. *Doklady Akad. Nauk S.S.S.R.* 92 [illegible]. Comparison of refractions of NH_4 salts [illegible] corresponding K salts shows that the NH_4 salts [illegible] NH_4Br, and NH_4I show a constantly greater [illegible] the difference is 1.07 for chloride, [illegible] for iodide. The values of refraction [illegible] were extrapolated according [illegible] 4.14. Similarly the nitrates, perchlorates, sulfites [illegible] nitrates of K and NH_4 show a [illegible] difference 1.52, 1.61, 1.78, and 1.[illegible]. The [illegible] is ascribed to H-bond formation [illegible] link NH ... O = 1.68 [illegible] the no. of H atoms shows that increment of refraction [illegible] bond NH ... O is 2.17 units. [illegible] Palermo [illegible] 43 [illegible].

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
General and Physical Chemistry

BATSANOV, S. S.

"Crystal-Optical Method of Determining the Structure of Complex Compounds." Cand Chem Sci, Moscow Order of Lenin State U imeni M. V. Lomonosov, 5 Mar 54. Dissertation (Vechernyaya Moskva Moscow, 24 Feb 54)

SO: SUM 186, 19 Aug 1954

BATSANOV, S. S.

USSR/Chemistry - Molecules, History FD-675

Card 1/1 : Pub. 129 - 10/25

Author : Bokiy, G. B.; and Batsanov, S. S.

Title : Problem of the concept of "molecule"

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, Vol. 9, No. 3, 71-74, May 1954

Abstract : A historical outline concerning the concept of "molecule." Discuss the various terms "molecule," particles," "corpuscles," etc. and their definitions.

Institution : Chair of Crystallography and Crystallochemistry

Submitted : February 4, 1954

FD-1509

USSR/Chemistry - Physical

Card 1/1 : Pub. 129-12/18

Author : Batsanov, S. S.

Title : Molar refraction of the hydrogen bond in inorganic compounds. Report 1

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, 9, No 6, 95-108, Sep 54

Abstract : Studied the nature of the hydrogen bond in inorganic compounds (halides, oxides, nitrogen compounds) by means of the refractometric technique. It developed that the hydrogen bond depends not only on the atoms with which it is bound, but also on the electrical charge on these atoms. Fourteen tables; one graph. Twenty-six references (three USSR).

Institution : Laboratory of Crystal Chemistry

Submitted : December 16, 1953

BATSANOV, S.S.

USSR/Chemistry - Physical FD-1146

Card 1/1 Pub. 129-10/23

Author : Batsanov, S. S.; Pakhomov, V. I.

Title : Refractions of chlorine substituted alcohols and acids of the aliphatic series

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, 9, No 7, 83-86, Oct 1954

Abstract : Studied the effect of the presence of a halogen atom near the carboxyl group in a number of aliphatic compounds, on the refractive index and on the molecular refraction. Eighteen references (seven USSR).

Institution : Chair of Crystallography and Crystal Chemistry

Submitted : May 14, 1954

BATSANOV, S. S.

USSR/Chemistry - Physical FD-1147

Card 1/1 Pub. 129-11/23

Author : Bokiy. G. V.; Batsanov, S. S.

Title : A new method for determining the structure of complex compounds (Third article)

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, 9, No 7, 87-96, Oct 1954

Abstract : Work deals with the refractometric determination of the geometric configuration of complex cobalt compounds. Six tables; graphs. Twenty-eight references (nine USSR)

Institution : Chair of Crystallography and Crystal Chemistry

Submitted : March 31, 1954

USSR/Chemistry - Inorganic FD-1608

Card 1/1 : Pub. 129-11/23

Author : Bokiy, G. B.; Lyashenko, M. N.; Batsanov, S. S.

Title : A new method for determining the structure of complex compounds

Periodical : Vest. Mosk. un., Ser fizikomat. i yest. nauk, 9, No 8, 75-78, Dec 1954

Abstract : Determined the geometric configuration of the cis and transisomers of Pt $(NH_3)_2Cl_2$ and the transisomer of $Pt(NH_3)_2(NO_2)_2$ by comparing the molecular refraction as calculated by the Lorentz and Lorenz formula with the experimentally determined values. The refractive indices used were values obtained by extrapolating to infinite wavelength. Three tables. Seven references (six USSR).

Institution : Chair of Crystallography and Crystal Chemistry, Geology Faculty

Submitted : March 31, 1954

CATSANOV S.S.

Quantitative characteristic of trans ... complexes. G. B. Boku... S. S. Ba...

proof of higher mobility of electrons in case of different addends. The incremental increase for NO_2-Pt-NH_3(II) was higher than for Cl-Pt-NH_3(II) in agreement with stronger trans-influence ... reverse is true. Similar relations hold in Co(III) compl... NH_3 ... No. 13 ... It is propose... the degree of trans-influence ...

USSR/ Chemistry - Inorganic chemistry

Card 1/1 Pub. 40 - 1/26

Authors : Bokiy, G. B., and Batsanov, S. S.

Title : Crystallo—optical method of determining the structure of complex compounds

Periodical : Izv. AN SSSR Otd. khim. nauk 2, 193 - 196, Mar-Apr 1955

Abstract : Experimental data are presented regarding the coordinate refractions of tetravalent Pt. The geometrical configuration was determined by comparing the experimentally measured refraction indexes with theoretically calculated indices for various isomeric forms. The calculation of the refraction indices was accomplished by the Lorentz method. The advantages of the crystallo-optical method are listed. The structure of a newly synthesized cis-isomer $K_2Pt(NO_2)_4Cl_2$ was determined by this new method. Eight references: 6 USSR and 2 German (1933-1954). Tables.

Institution : Acad. of Sc., USSR, The N. S. Kurnakov Inst. of Gen. and Inorg. Chem.

Submitted : April 27, 1954

AID P - 3161

Subject : USSR/Chemistry

Card 1/1 Pub. 119 - 3/7

Author : Batsanov, S. S. (Moscow)

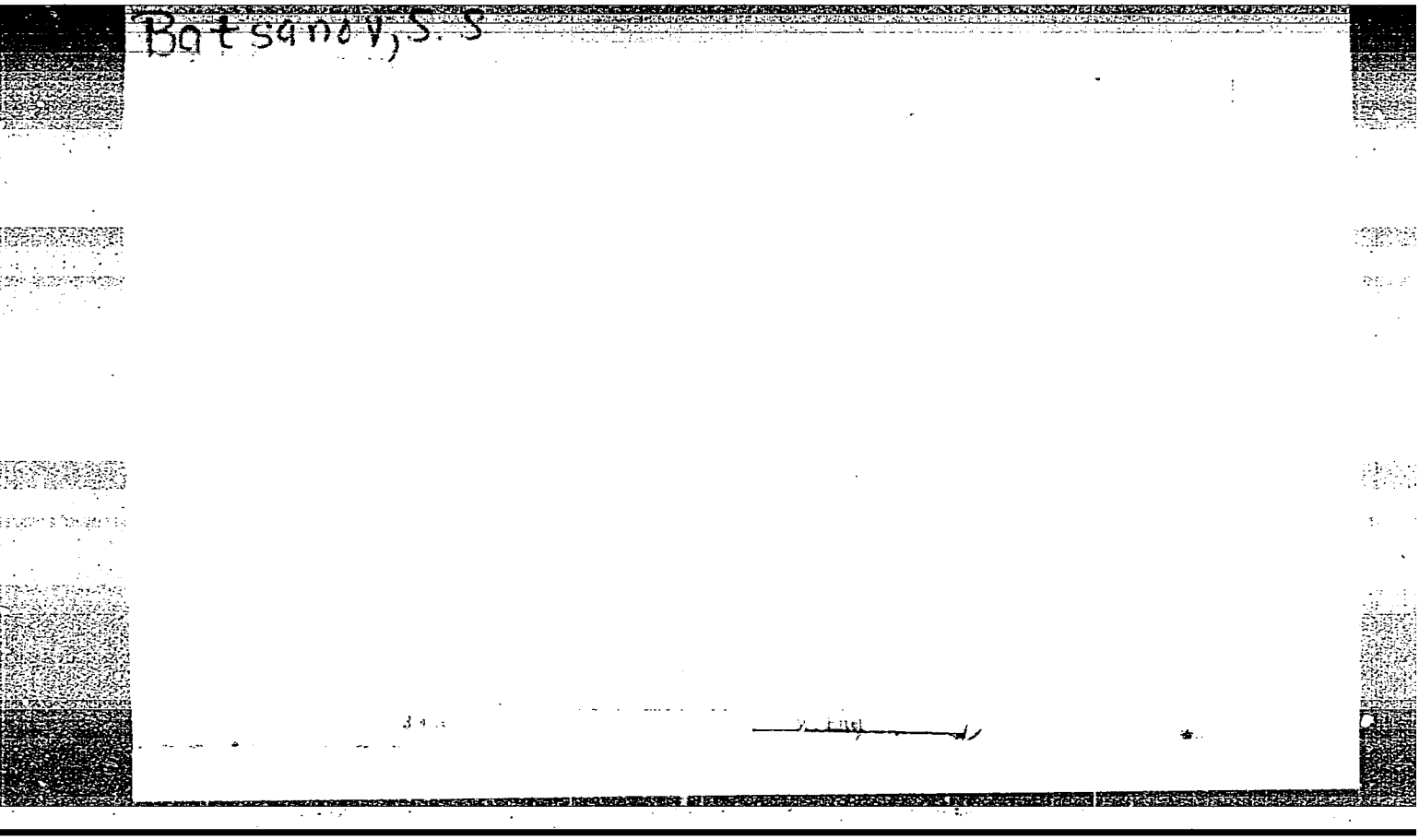
Title : Development of refractometry and its application in chemistry

Periodical : Usp. khim., 6, 688-729, 1955

Abstract : Atomic, bond, and ionic refractions are discussed. Methods for determining the physical and chemical properties of the chemical substances with the aid of refraction data are reviewed. Use of refractometry in establishing the structure and purity of chemical substances is also reviewed. Three diagrams, 35 tables, 147 references, 66 Russian (1880-1955).

Institution : None

Submitted : No date



Category : USSR/Optics - Physical optics K-5

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 2302

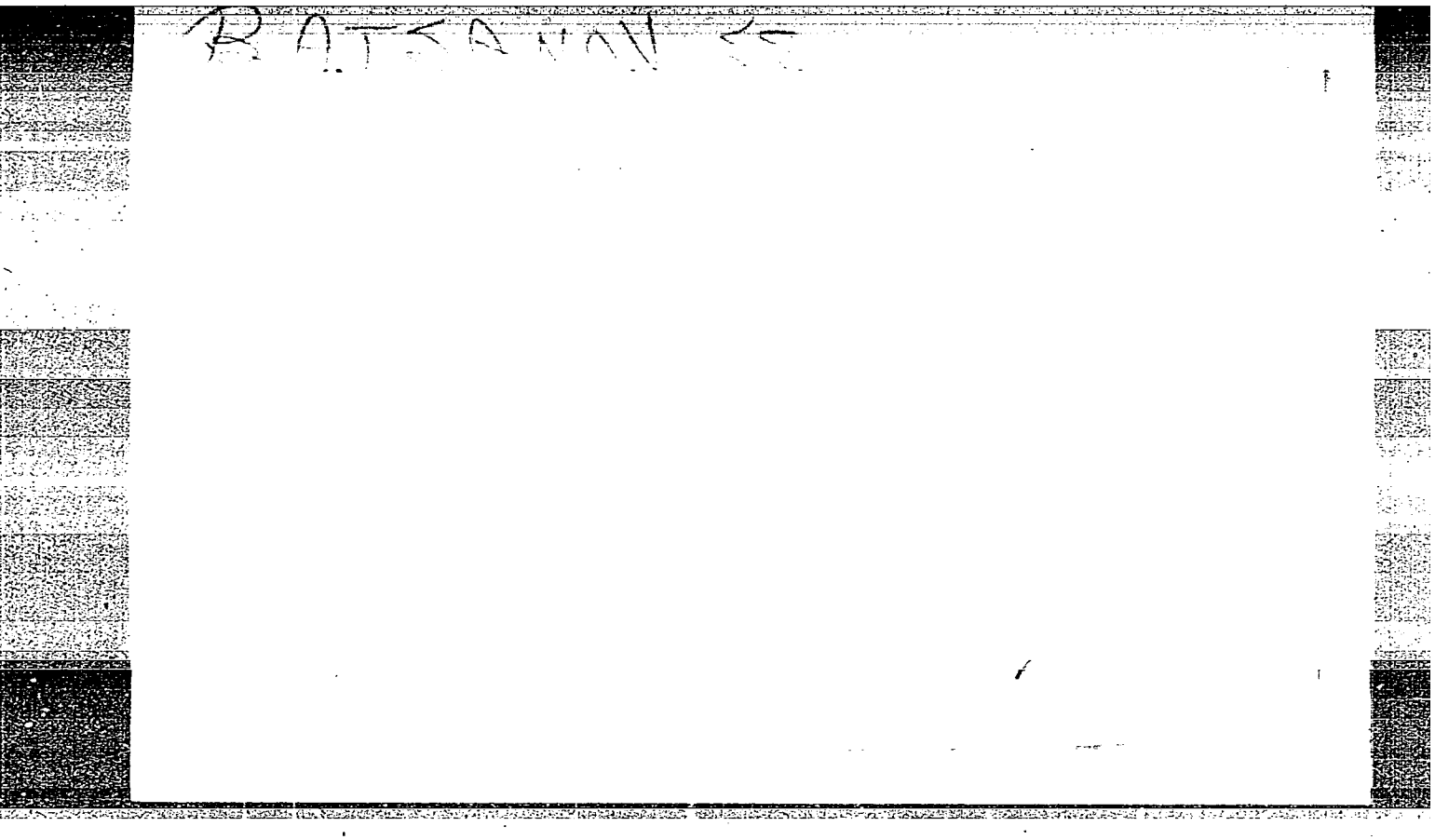
Author : Batsanov, S.S.
Title : Connection between Melting Temperature and Index of Refraction of Ionic Crystals

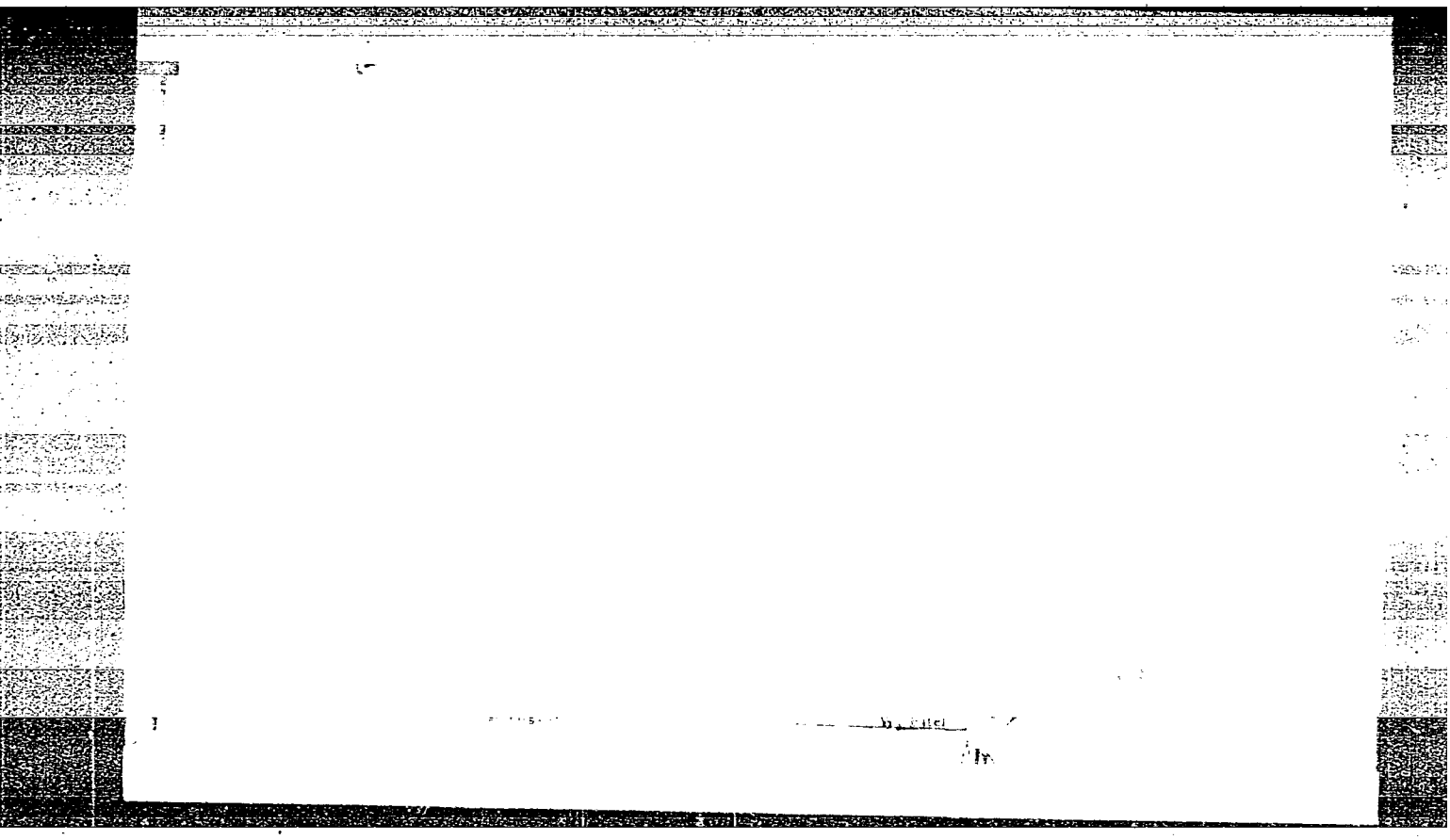
Orig Pub : Kristallografiya, 1956, 1, No 1, 140-142

Abstract : Literature data are used to show that in many halogenides of alkali metals with common cation the index of refraction n diminishes linearly with increasing melting temperature, i.e. in the direction I--Br--Cl--F. This law is explained by the additive character of the two properties and by their common dependence on the ionic radii.

Moscow State Univ im. M.V. Lomonosov

Card : 1/1





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BATSANOV, SS.

USSR/Physical Chemistry - Molecule, Chemical Bond. B-4

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 6974.

Author : S.S. Batsanov.
Inst :
Title : Refraction of Hydrogen Bond in Inorganic Compounds. III.

Orig Pub: Kristallografiya, 1956, 1, No 3, 328-333.

Abstract: The hydrogen bond (HB) of the types OH...N and NH...N in crystals of inorganic compounds was studied by the refractometrical method. The dispersion of refraction indices (n), n_g, n_m, n_p and n_∞ of $K_4Fe(CN)_6.3H_2O$ (I) and $K_4Fe(CN)_6$ (II) was measured. The molecular refraction R(cm)^3 was computed for I = 70.94 and II = 59.27 from their $n_\infty = \sqrt{n_g \cdot n_m \cdot n_p}$ and measured densities, and R for H_2O = 3.89 (the proper magnitude of R_{H_2O} = 3.42) was determined from these data. Considering that the R(ER) exaltation is caused by the formation of two HB-s, R = 0.24 for one OH...N bond. For the determina-

Card : 1/2

-20-

BATSANOV, S S

BATSANOV, S. S.

USSR/Physical Chemistry - Molecule. Chemical Bond, B-4

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 60810

Author: Batsanov, S. S., Pakhomov, V. I.

Institution: None

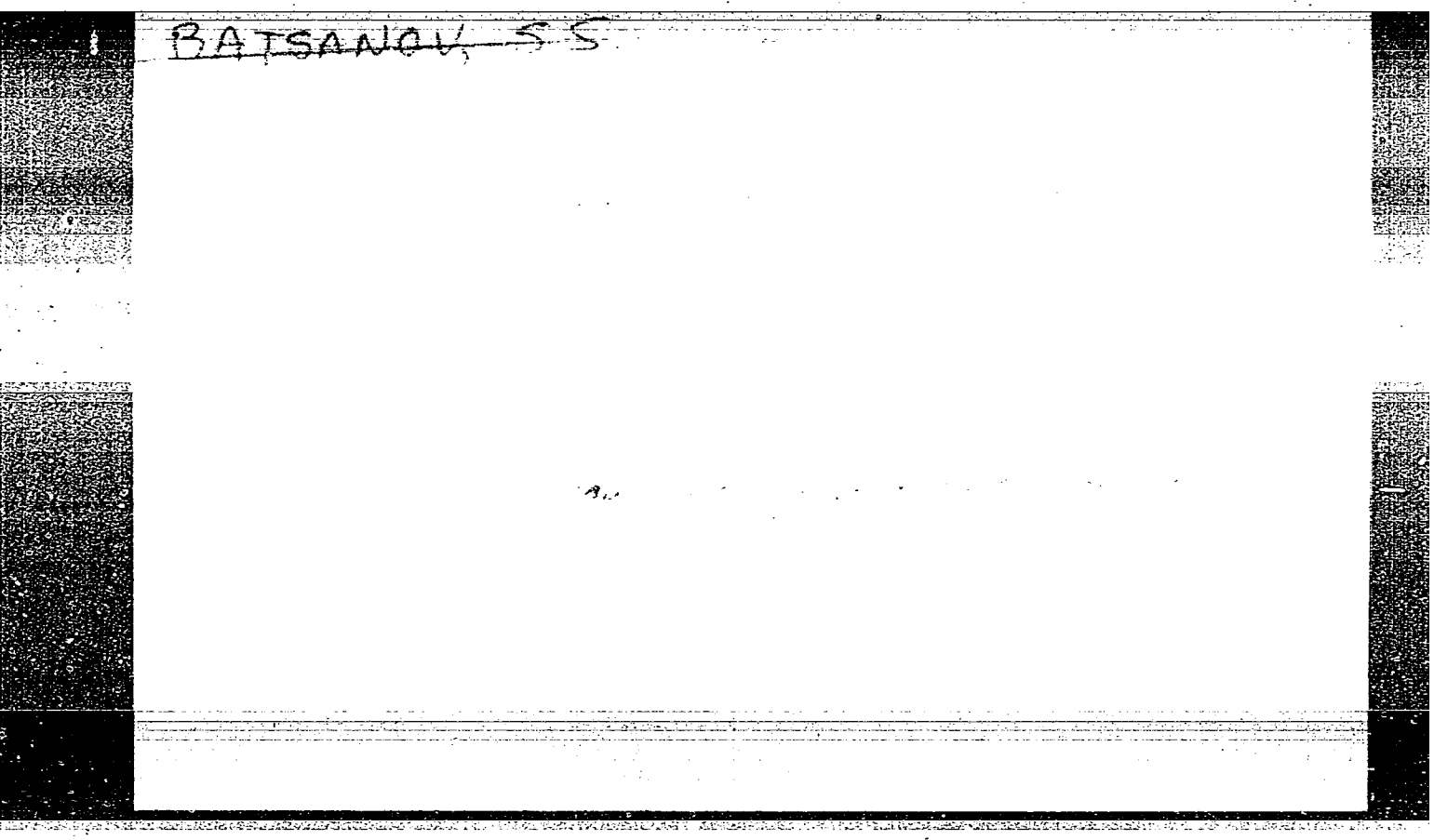
Title: On Refractions of α-β-Substituted Naphthalenes

Original Periodical: Vestn. Mosk. un-ta, 1956, No 2, 65-67

Abstract: By comparison of refractions of isomeric monosubstituted naphthalenes it is shown that α-isomers (I) have lower refraction than β-isomers (II). The authors attribute this to the fact that in I overlapping of Van der Waals spheres of adjoining atoms not combined through valence and consequently the decrease of effective volume of molecule is greater than in II. Difference in refractions of I and II and Van der Waals radii increase in the series H, O, N, C, Cl and J.

Card 1/1

CHAIR of CRYSTALLOGRAPHY & CRYSTALO-CHEMISTRY



БАЦАНОВ, С. С.

USSR/ Physical Chemistry - Crystals B-5

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 7279

Author : Batsanov, S.S.
Inst : Institute for Crystallography of the Academy of Sciences USSR
Title : Crystals of Complex Compounds of the Metals of the Platinum Group. Article 13.

Orig Pub : Tr. In-ta kristallogr. AN SSSR, 1956, Vol 12, 93-97

Abstract : The distribution of the indices of refraction of complexes of Pt(IV) of the type $Pt(NH_3)_2(NO_2)_2X_2$, where X = Cl, Br, NO_2, OH, as well as the density and the distribution of the indices of refraction of complexes of Co(III) which are members of the Werner-Miolati transitional nitroammonia series have been measured. The indices of refraction were determined by the immersion method, using West's "phosphor" liquid; a universal monochromator was used as the source. For article 12 see RZhKhim, 1956, 24909.

Card 1/1

BATSANOV, S.S.

USSR/ Chemistry - Hydrogen bonds

Card 1/1 Pub. 147 - 17/35

Authors : Batsanov, S. S., and Pakhomov, V. I.

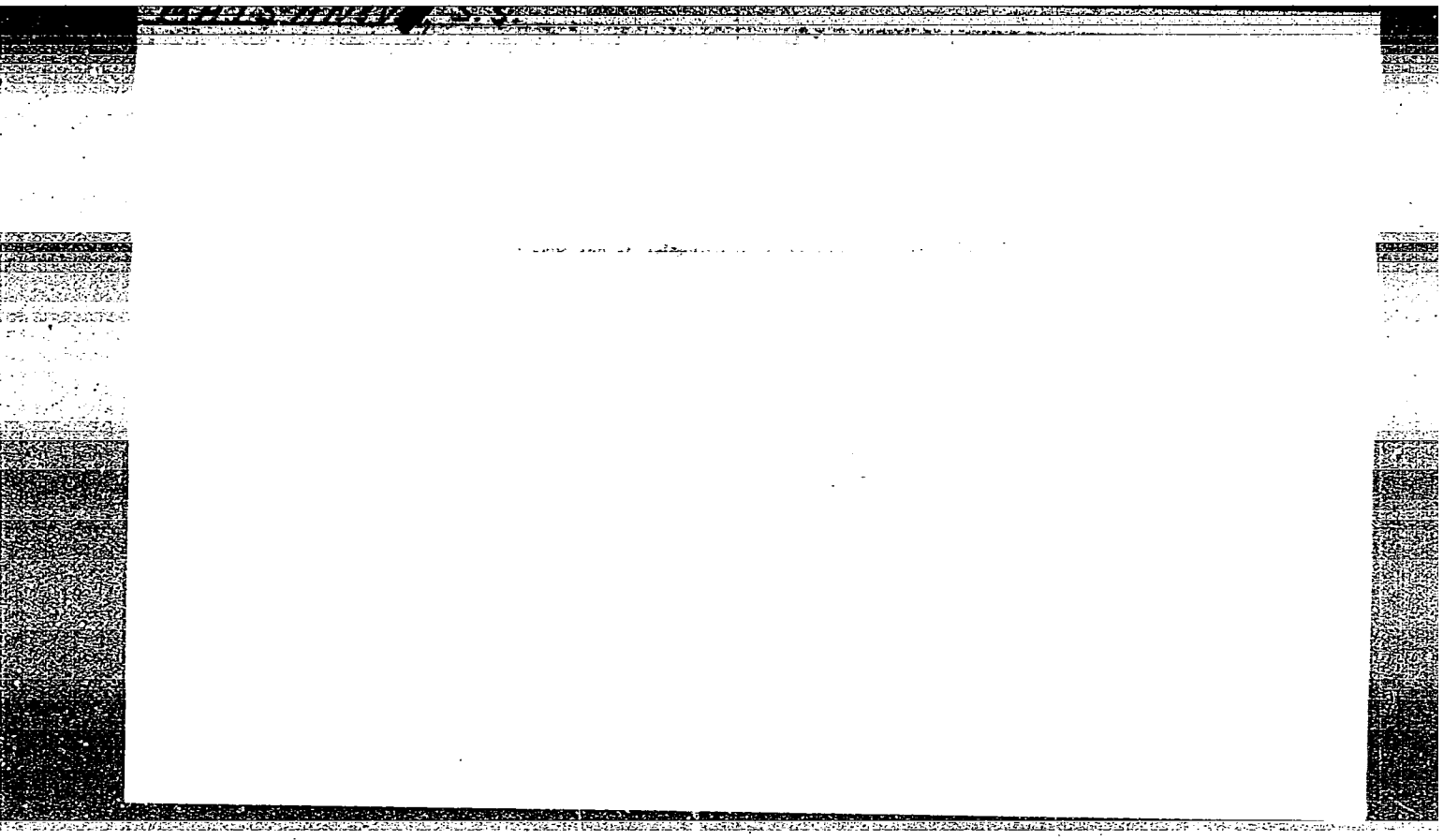
Title : New methods of quantitative investigation of a hydrogen bond. Part 1. Molal volume

Periodical : Zhur. fiz. khim. 30/1, 142-154, Jan 1956

Abstract : New methods for the study of the formation of hydrogen bonds are described. Actual experiments showed that the formation of hydrogen bonds in inorganic substances increases the molal volume of the compounds. It was established that the formation of intermolecular hydrogen bonds in organic compounds reduces their molal volumes and that an intramolecular hydrogen bond produces no essential effect on the compounds. The values of the volumetric hydrogen bond increments were found to vary in accordance with their forces. Twenty-three references: 8 USSR, 6 USA, 7 Germ., 1 Indian and 1 Eng. (1841-1955). Tables; graphs.

Institution : Moscow State University im. M. V. Lomonosov

Submitted : May 3, 1955



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with chains in which the neutral silicates for sterite, almandite, and bedenbergite are opposed to the basic salts

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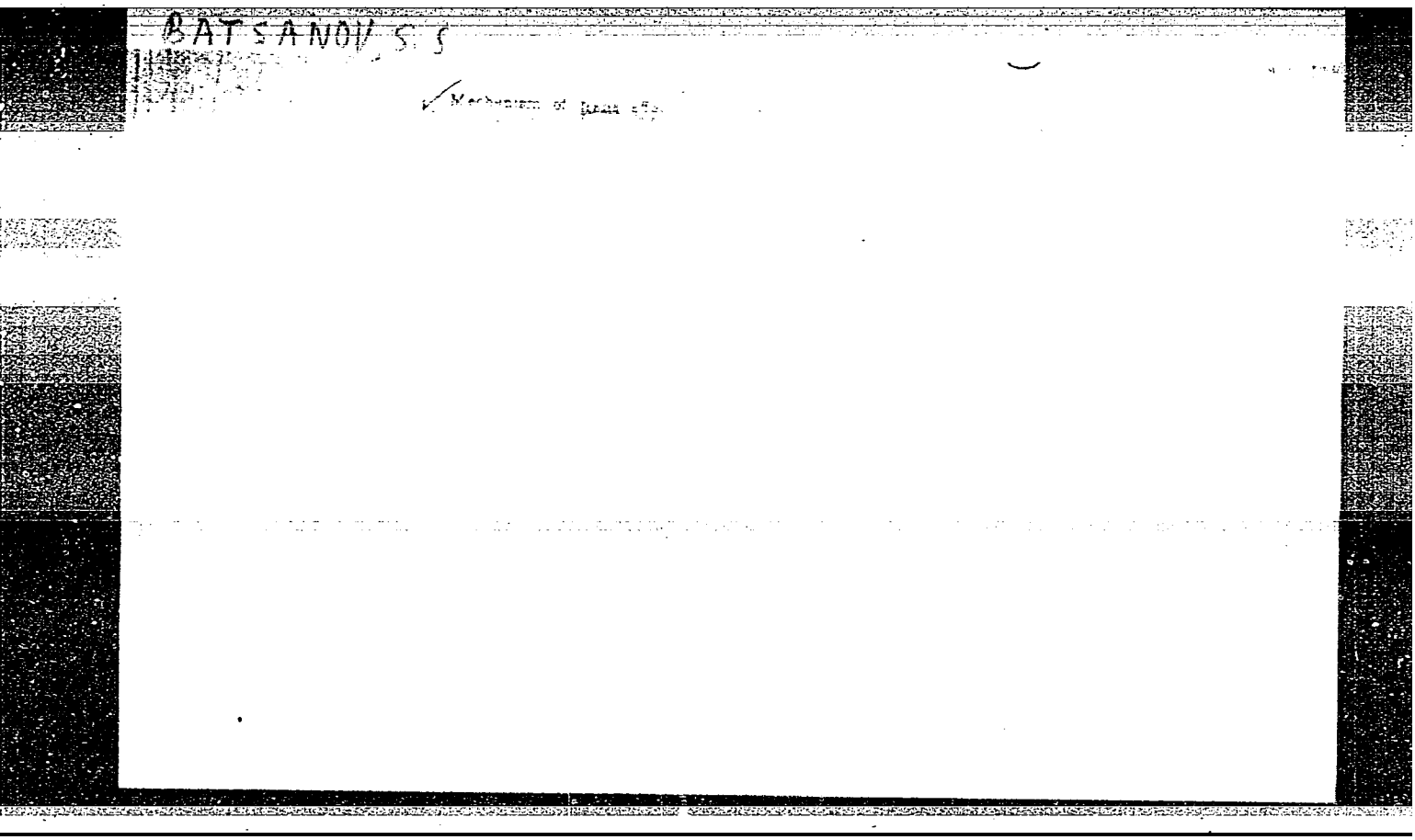
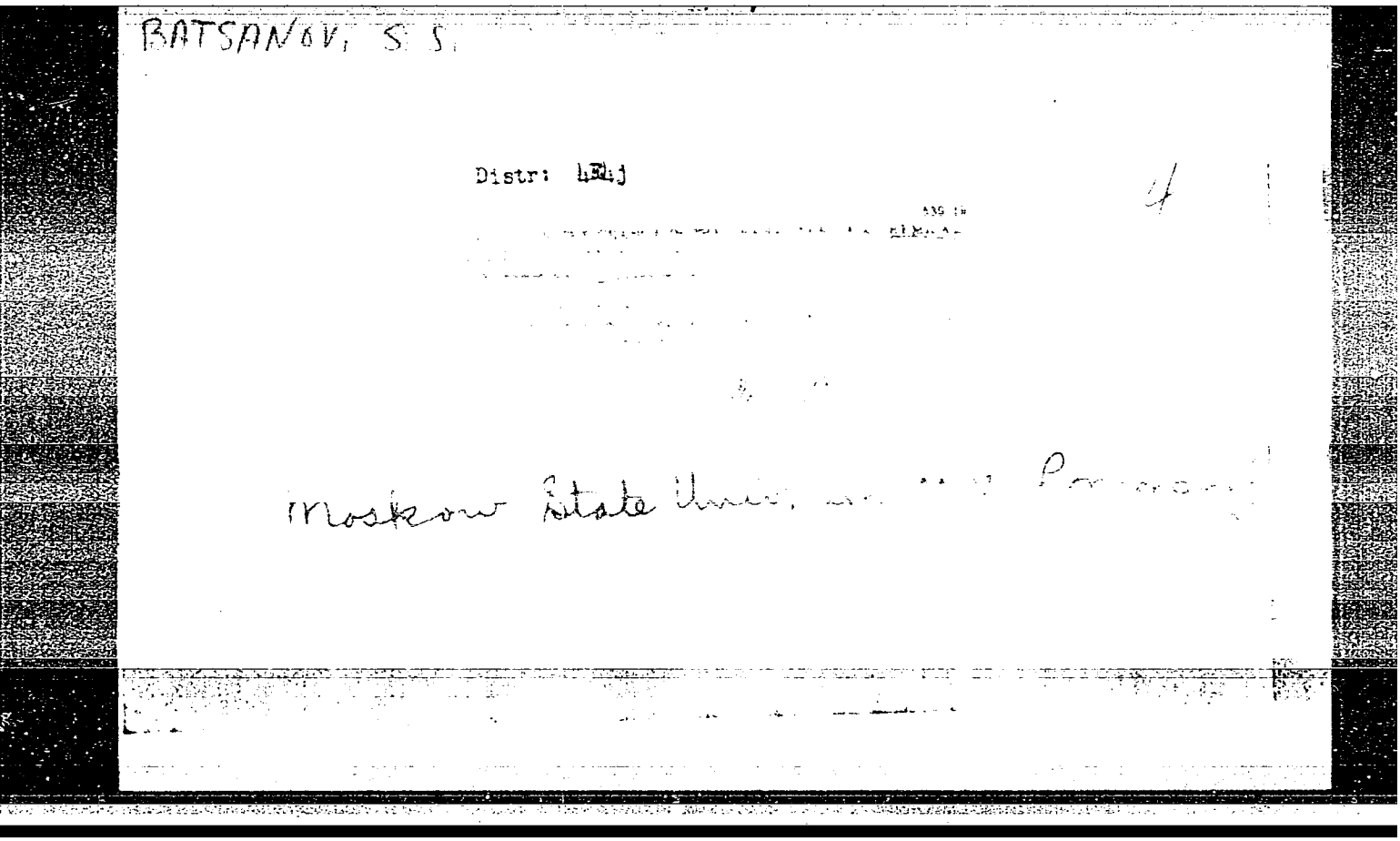




BATSANOV, S. S.

Distr: 4Ej

4

Moskow State Univ.

70-2-10/24

AUTHOR: Batsanov, S.S.

TITLE: The refractometric determination of the structures of complex compounds of cobalt. (Refraktometricheskoye opredeleni stroyeniya kompleksnykh soyedineniy kobalta)

PERIODICAL: "Kristallografiya" (Crystallography), 1957, Vol.2, No.2, pp. 268-273 (U.S.S.R.)

ABSTRACT: Optical data relating to the crystals of complex compounds of Co (11 nitro-ammoniates and 4 Cl ammoniates) are collected chiefly from papers by G.B. Bokiy and S.S. Batsanov. The refractivities are calculated and extrapolated to infinite wavelength by P. Wulf's method. Differences give the contribution due to $Co-NH_3$, Co-Cl and $Co-NO_2$ bonds from which the bond lengths are estimated at 1.96, 2.33 and 2.0C A respectively. These values agree well with X-ray data. Differences between the refractivities of the NO_2-Co-NH_3 group and the average of the NO_2-Co-NO_2 and NH_3-Co-NH_3 groupings give an estimate of the increase in refractivity of the NH_3 group under the influence of the NO_2 group. Similar comparisons were made for the Cl influence. This represents a measure of the tendency to labilisation of the complex. There are 7 tables and 18 references, 13 of which are Slavic.

Card 1/2

BATSANOV, S.S.

78-3-20/35

AUTHOR: Batsanov, S. S.

TITLE: IV. Refraction of the Hydrogen Bond in Inorganic Compounds. (Refraktsiya vodorodnoy svyazi v neorganicheskikh soyedineniyakh.)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1957, Vol.II, Nr.3, pp. 628-631. (USSR)

ABSTRACT: The refractometric method is applied in the present investigation to the study of the hydrogen-fluorine bond in inorganic crystals. The main problem here was the preparation of sufficiently pure fluorine compounds, and brief accounts of the method adopted are given. The fluorides of silicon, boron, aluminium, iron and manganese were subjected to refractometric measurements. Of the compounds studied only $(NH_4)_4SiF_6$, NH_4MnF_3 and NH_4F showed any evidence of the existence of fluorine-hydrogen bonds. This was deduced from comparison of results obtained with those available in

Card 1/2

BATSANOV, S.S.

Atomic refraction of metals. Zhur.neorg.khim. 2 no.6:1221-1222 Je '57. (MIRA 10:10)
(Refractive index) (Metals)

BATSANOV, S.S.

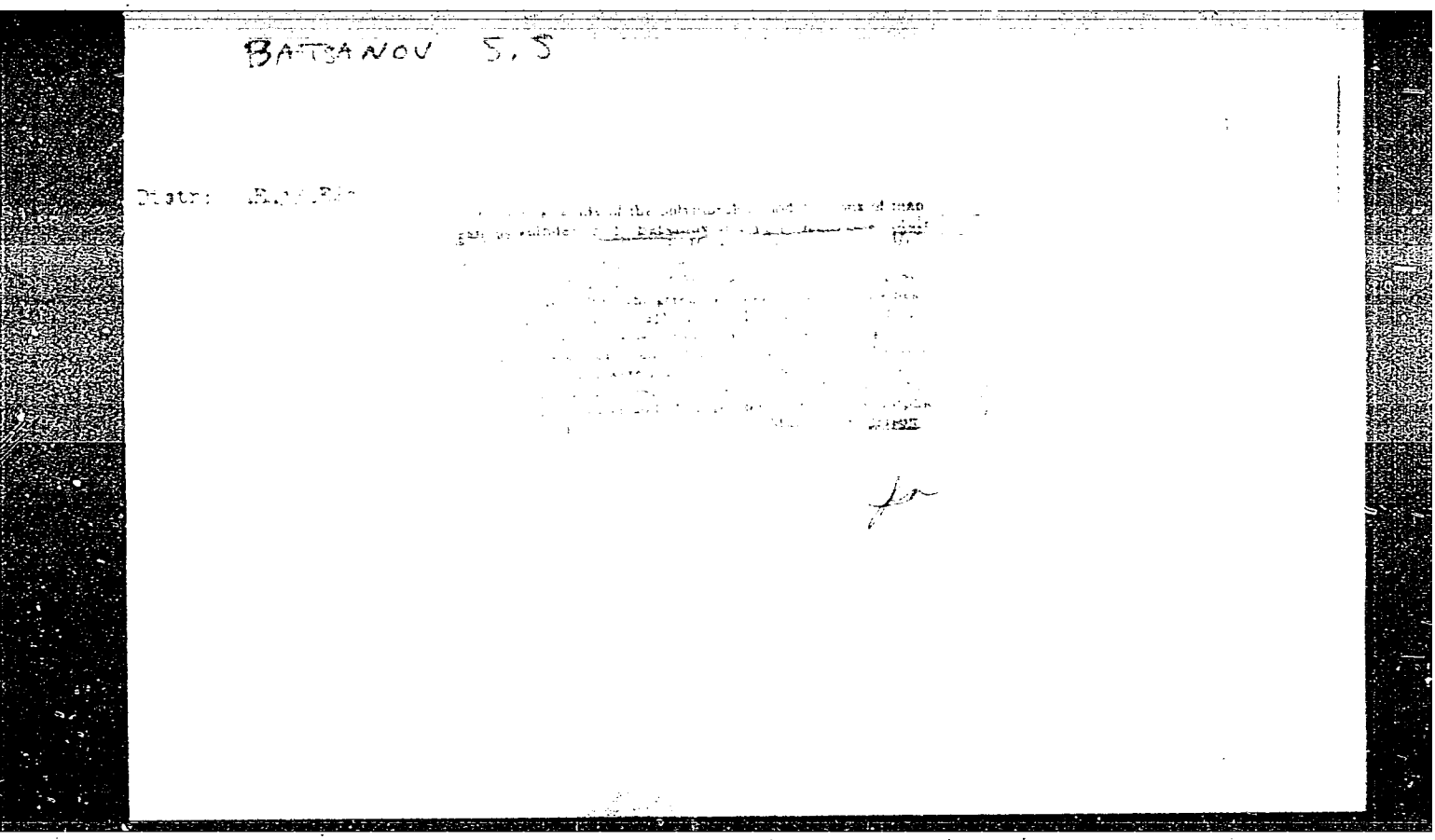
Mutual relation between the polarization theory and the conception of electronegativities. Zhur.neorg.khim. 2 no.7:1482-1487 Jl '57. (MIRA 10:11)

(Chemistry, Physical and theoretical)

Batsanov, S.S.

BATSANOV, S.S.

Using refractometry for quantitative characterization of the transeffect. Zhur.neorg.khim. 2 no.9:2018-2024 S '57. (MIRA 10:12)
(Chemical bonds)



BATSANOV, S.S.; BOKIY, G.B.

Crystallographic and optical determination of the structure of platinum complex compounds. Vest.Mosk.un.Ser.mat.mekh., astron., fiz., khim. 12 no.2:3-14 '57. (MIRA 10:12)

1.Kafedra kristallografii i kristallokhimii geologicheskogo fakul'teta Moskovskogo universiteta.
(Platinum compounds)

BATSANOV, S.S.

Refraction effects in electrolyte solutions. Vest.Mosk.un.Ser.mat., mekh., astron., fiz., khim. 12 no.2:223-226 '57. (MIRA 10:12)

1.Kafedra kristallografii i kristallokhimii geologicheskogo fakul'teta.
(Electrolytes) (Refraction)

Batsanov S

BOKIY, G.B.; BATSANOV, S.S.

Refractometric determination of silicate structure. Zap. Vses. min. ob-va 86 no.4:421 '57. (MIRA 11:1)
(Silicates) (Refractometry)

5(2)
AUTHOR: Batsanov, S.S. SOV/55-58-3-21/30

TITLE: Refraction of Hydrogen Bond in Inorganic Combinations.V (Refraktsiya vodorodnoy svyazi v neorganicheskikh soyedineniyakh.V)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya matematiki, mekhaniki, astronomii, fiziki, khimii ,1958,Nr 3,pp 177-186 (USSR)

ABSTRACT: The investigations of the author /Ref 1-6/ are continued. Now he reports on refractometrical measurements of hydrogen combinations in crystalline bases, acids and acid salts. The results are summarized in 12 tables.
There are 12 tables and 26 references, 8 of which are Soviet, 7 German, 6 American, 2 English, 1 French, 1 Italian, and 1 Indian.

ASSOCIATION: Kafedra kristallografii i kristallokhimii (Chair of Crystallography and Chemistry of Crystals)

Card 1/1

Batsanov, S. S.

AUTHOR: Batsanov, S. S. 78-2-1/43

TITLE: A New Method for the Calculation of the Molecular Refraction (Novyy metod vychisleniya molekulyarnykh refraktsiy).

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 2, pp. 241-259 (USSR).

ABSTRACT: The method for the calculation of the molecular refraction and the determination of the atom- and ion-refraction were improved. A complete system for the atom-refraction of metals and nonmetals as well as a complete system for the ion-refraction were set up. The atom-refractions cannot be calculated by gas-refractometry, but only by the assumption that the atom-refraction of the metals is proportional to the atomic volume. A method for the calculation of the interionic degree of the atomic refraction was worked out which is made possible by the determination of the molecular refraction of chemical compounds in all states of aggregation. The theoretical consideration is confirmed by tests, especially by tests with crystalline bodies which confirm the assumption that the polarity of the linkage increases simultaneously with an increase in the coordination number. The calculation of the molecular refraction

Card 1/2

A New Method for the Calculation of the Molecular Refraction. 78-2-1/43

of bodies of different classes has an error of 7,49% and is six times more accurate than the determination according to the classical methods. There are 4 figures, 16 tables, and 89 references, 15 of which are Slavic.

SUBMITTED: April 13, 1957

AVAILABLE: Library of Congress

Card 2/2

AUTHORS: Batsanov, S. S., Aleksandrova, O. P. SOV/78-3-12-13/36

TITLE: III. The Application of Refractometry to the Quantitative Characterization of the Trans-Effect (III. Ispol'zovaniye refraktometrii dlya kolichestvennoy kharakteristiki trans-vliyaniya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 12, pp 2666-2670 (USSR)

ABSTRACT: The refractometric constants of the following divalent palladium complex compounds were determined: $[Pd(NH_3)_4]Cl_2 \cdot H_2O$, cis-$Pd(NH_3)_2Cl_2$, K_2PdCl_4, cis-$Pd(NH_3)_2(NO_2)_2$, $K_2[Pd(NO_2)_4]$, $K_2[Pd(CN)_4] \cdot 3H_2O$, $K_2[Pd(CN)_4] \cdot H_2O$, $K_2[Pd(CNS)_4]$. On the basis of these constants new coordination refractions were determined. It was shown that, as in the case of platinum compounds, the nitro group has a greater trans-effect than has the chloro group. The change in refraction as a result of the trans-effect of the addends was investigated. The results are summarized in table IV. This table shows that the nitro groups cause a greater proportional increase in the polarity of ammonia than do

Card 1/2

III. The Application of Refractometry to the Quantitative Characterization of the Trans-Effect

chloro groups. In addition, they exert a greater trans-effect. The trans-effect of the addenda in different coordinates of palladium is greater than that in those of platinum. The increase in the polarity of the atoms as a result of the trans-effect corresponds to the chemical data obtained.
There are 4 tables and 6 references, 4 of which are Soviet.

SUBMITTED: September 5, 1957

BATSANOV, S.S.

Accuracy of the statistical immersion method. Vest.Mosk.un. Ser.biol.,pochv.,geol.,geog. 13 no.4:127-130 '58. (MIRA 12:4)

1. Kafedra kristallografii i kristallokhimii Moskovskogo universiteta.

(Crystals) (Refractive index)

BOKIY, G.B.; BATSANOV, S.S.

Effect of the degree of ionization on bond energy. Zap. Vses. min. ob-va 87 no.2:223-224 '58. (MIRA 11:9)

1. Deystvitel'nyy chlen Vsesoyuznogo mineralogicheskogo obshchestva (for Bokiy).
(Chemical bonds) (Ionization)

BATSANOV, Stepan Sergeyevich

"The Crystal Chemical Aspect of the Theory of Electronegativities"

a report presented at Symposium of the International Union of Crystallography Leningrad, 21-27 May 1959

24(4) PHASE I BOOK EXPLOITATION SOV/3328

Batsanov, Stepan Sergeyevich

Strukturnaya refraktometriya (Structure Refractometry)[Moscow] Izd-vo Moskovskogo univ., 1959. 222 p. Errata slip inserted. 8,000 copies printed.

Ed: K.A. Petrova; Tech.: M.S. Yermakov.

PURPOSE: This is a textbook for students of schools of higher education.

COVERAGE: The book deals with the application of refractometry to problems of chemical structure. It describes the evolution of the refractometric process and presents methods for calculating atomic, bond, ion, and other types of refractions. It also describes the application of refraction to the study of the hydrogen bond, organic substances, and solutions, as well as to the determination of the structure of complex compounds and structure formulas of silicates. There are 459 references, 105 of which are Soviet.

Card 1/3

Structure Refractometry SOV/3328

TABLE OF CONTENTS:

Card 2/3

BATSANOV, S. S., Doc of Chem Sci -- (diss) "New Refractometric Methods of Structural Chemistry," Novosibirsk, 1959, 37 pp (Siberian Division of the Institute of Inorganic Chemistry, Academy of Sciences USSR) (KL, 8-60, 114)

BATSANOV, S.S.; DURAKOV, V.I.

Determining the ionic nature of bonds from polarization data; preliminary report. Izv.Sib.ots. AN SSR no.1:67-71 '59. (MIRA 12:4)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR.
(Chemical bonds)

BATSANOV, S.S.; GOROGOTSKAYA, L.I.

Manganese halogen selenides. Izv. Sib. otd. AN SSSR no.3:42-48 '59. (MIRA 12:8)

1. Institut neorganicheskoy khimii Sibirskoge otdeleniya Akademii nauk SSSR.
(Manganese compounds) (Selenium compounds)

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Reaction of copper thiocyanate and halogens. Izv. Sib. otd. AN SSSR no.9:63-67 '59 (MIRA 13:3)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR.
(Copper thiocyanate) (Halides)

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AUTHORS: Batsanov, S. S., Gorogotskaya, L. I.

TITLE: The Relation Between the Molecular Volumes and the Crystal-lattice Energies

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 6, pp 858 - 864 (USSR)

ABSTRACT: This paper is intended to establish precise physical fundamentals to the relations between the molecular volumes and the lattice energies. The whole complex of physico-chemical properties of the crystals is determined by this relation. The molecular volume of a substance is a cubic function of the interatomic distances $V = f(r^3)$. According to Coulomb's law the lattice energy of an ionic crystal can be expressed using the relation $U = \varphi(\frac{1}{r})$. In this paper, only crystalline compounds of mono- and bivalent elements with a maximum negative cation potential of 1.5 to 1.7, and a minimum anion potential of 2.5 were considered, since, for the other com-

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pounds, the values calculated for the lattice energies are in disagreement with data found experimentally. Halides, oxides, sulfides, and some nitrogen-containing compounds of the alkaline, earth-alkaline, and some other mono- and bivalent cations with no inert-gas structures belong to the compounds investigated. As the volume depends only on constant geometrical factors, and the lattice energy is dependent on constant quantities as well, the product $\sqrt[3]{V}.U$ should remain, more or less constant for analogous compounds. This can be checked experimentally in a simple way. The molecular volumes of A^+X^--type salts and the numerical values of the products $\sqrt[3]{V}.U$ are given (Table 1). The same values are then given for $A^{2+}X^{2-}$-(Table 2), $A^{2+}X_2^-$-(Table 3), $A_2^+X^{2-}$-(Table 4) type salts, for hydroxides and hydrosulfides (Table 5), nitrogen-containing compounds (Table 6), and the carbonates of bivalent metals (Table 7). Results given in the tables show that the products $V^{\frac{1}{3}}.U$ = const c are almost the same for

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analogous compounds (with a maximum deviation of 2%). The numerical differences of the products $V^{\frac{1}{3}}.U$ = const for salts of different types in the tables is explained by the fact that the molecular volume depends on the number and the lattice energy on the number and the charge of the ions.

According to the average values given for $V^{\frac{1}{3}}.U$, the product of the specific volumes and the lattice energies for salts of all types is constant: $V_1^{\frac{1}{3}}.U_1$ = const = 220. This value can also be interpreted on the basis of the formula for the energies of ion crystals derived by Kapustinskiy

$$U = 256 \frac{\sum m z_1 . z_2}{r_A + r_X} .$$

Lattice energies calculated from the known molecular volumes for a number of halides, sulfides, and oxides, not determined experimentally are given in table 8. In addition to the

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lattice energies, the densities of crystallic substances, i.e. of NaSH, NaCN, NH_4CN, and CsN_3 were calculated in some cases. From data obtained in the course of the investigation, the hydrogen-bond energies for NH_4F and NH_4N_3 could be calculated. I. I. Zaslavskiy (Refs 3-6) is mentioned by the authors. There are 8 tables and 23 references, 7 of which are Soviet.

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AUTHORS: Batsanov, S. S., Gorogotskaya, L. I.

TITLE: Oxy-sulfides and Halogen Sulfides of Manganese (Oksi- i galogensul'fidy margantsa)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 1, pp 62-70 (USSR)

ABSTRACT: The synthesis of γ-MnOS and the γ halogen sulfides of manganese was carried out and confirmed by physico-chemical and X-ray analyses. The compound MnSBr, in which manganese is trivalent, was synthesized. The synthesis of MnSJ was carried out by the effect of iodine on the pink modification of manganese sulfide. The compound MnSJ is entirely soluble in water and organic solvents, constant in air and stable up to 150°C. This compound is clearly distinct from the manganese iodide compound. The reciprocal effect of halogens with manganese sulfide can be seen in two respects: above all, the halogen is accumulated but there is also a slight degree of displacement reactions of sulfur caused by the halogens. The synthesis of α-oxy-sulfides and halogen sulfides of manganese and the properties of the products formed are described. Roentgenograms of all compounds

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and measurements of the refractometric constants of these compounds were recorded. There are 2 figures, 8 tables, and 16 references, 9 of which are Soviet.

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